

CLAIMS

1. A thermally insulating wall construction comprising a pair of masonry panels each having an internal surface and an observable surface and being arranged with said internal surfaces facing each other to define an air cavity between said panels, said internal surfaces each having a plurality of recesses interspersed between protrusions, and said wall construction having at least one reflective sheet which extends between adjacent protrusions, and which is spaced from the interior of said recesses.
2. The construction as claimed in claim 1 wherein the recesses and protrusions of one said internal surface are arranged opposite of the recesses and protrusions of other internal surface.
3. The construction as claimed in claim 1 or 2 having a single substantially centrally located said sheet intermediate said pair of panels.
4. The construction as claimed in claim 1 or 2 having a pair of said sheets each of which extends between the adjacent protrusions of the corresponding panel, and each of which is spaced from the interior of said corresponding recesses.
5. The construction as claimed in claim 4 wherein each of said pair of sheets at least partially enters the recesses of the corresponding panel.
6. The construction as claimed in claim 3, 4 or 5 wherein said recesses and protrusions respectively comprise a series of substantially parallel grooves and ridges.
7. The construction as claimed in claim 6 wherein said grooves are substantially semi-circular in transverse cross section and said ridges have substantially flat and co-planar crests.
8. The construction as claimed in claim 7 wherein strips of resilient cellular insulation material are positioned extending at least partially along said crests.
9. The construction as claimed in claim 8 wherein said strips are interposed between corresponding protrusions of said internal surfaces.
10. The construction as claimed in claim 9 wherein said strips are dimensioned to comprise a shock absorbing packing between said pair of masonry panels which, but for said strips, would otherwise have said corresponding protrusions substantially abutting.

11. The construction as claimed in any one of claims 1 or 2 wherein said recesses and protrusions are defined by a former retained within each said panel.
12. The construction as claimed in claim 11 wherein said former is shaped as a portion of an egg carton.
13. The construction as claimed in any one of claims 1-12 wherein a plurality said panels are edge abutted in side-by-side relationship.
14. The construction as claimed in claim 13 wherein the edge abutments of the panels on one side of said cavity are not aligned with the edge abutments of the panels on the other side of said cavity.
15. The construction as claimed in claim 13 or 14 wherein said edge abutment is defined by a tongue on one edge of each panel and a corresponding groove on the other edge of each panel.
16. The construction as claimed in any one of claims 1-15 wherein said panels are provided with interior grooves each defining part of a recess for a stud.
17. The construction as claimed in claim 16 wherein said studs are spanned by a beam which is capable of supporting floor joists of an upper storey.
18. The construction as claimed in any one of claims 1-17 wherein said reflective sheet comprises double sided aluminium coated plastics film.
19. The construction as claimed in any one of claims 1-18 wherein said recesses are at least partially filled with acoustic insulation.
20. The construction as claimed in claim 19 wherein said insulation is fibrous.
21. A method of fabricating a panel for use in the wall construction claimed in claim 1, said method comprising the steps of:
  - (i) creating a mould for said panel,
  - (ii) placing a shaped former in said mould to form said recesses and protrusions,
  - (iii) pouring a flowable hardenable cementitious substance onto said former within said mould and allowing same to set, and
  - (iv) removing said set material and former from said mould whereby said former is retained in situ in said panel.
22. The method as claimed in claim 21 including the further step of:
  - (v) placing a reflective sheet in said mould before placing said former therein.

23. The method as claimed in claim 22 including the further step of:
- (vi) placing a spacer on the base of said mould prior to placing said reflective sheet in said mould.
24. The method as claimed in any one of claims 21-23 including the further step of:
- (vii) coating at least part of said mould with plastics film to form a water impervious release agent.
25. A masonry panel having an internal surface and an observable surface, said internal surface having a plurality of recesses interspersed between protrusions, and at least one reflective sheet which extends between adjacent protrusions and which is spaced from the interior of said recesses.
26. The panel as claimed in claim 25 and fabricated from lightweight concrete.
27. The panel as claimed in claim 25 or 26 and including a former left in situ in said panel after its fabrication.
28. A masonry panel fabricated in accordance with the method as claimed in any one of claims 21-24.
29. A building including a wall construction as claimed in any one of claims 1-20 or a panel as claimed in claim 28.